

Claim Version with markings showing changes made

1.(Currently Amended) A device for monitoring plasma ~~comprising~~ consisting essentially of:

at least one layer of polymer soluble in water or being water dispersible selected from the group consisting of polymers of acrylate, acrylic acid, acrylamide, vinyl acetate and vinyl alcohol,

having incorporated therein

- a) an indicator capable of undergoing at least one color change
- b) an activator for said indicator wherein said activator, when contacted with plasma, undergoes a reaction wherein the product of said reaction causes said indicator to undergo said color change.

2.(Original) The device of claim 1 wherein the said indicator comprises at least one member of the group consisting of pigments, dyes, precursors of said dyes, and mixtures of any of the foregoing group members.

3. (Original) The device of claim 1 wherein the said indicator is a pH-sensitive sensitive dye.

4. (Original) The device of claim 1 wherein the said indicator is phenol red, m-cresol purple, pararosaniline or mixtures thereof.

5. (Original) The device of claim 1 where the said indicator undergoes halogenation or oxidation.

6. (Original) The device of claim 1 wherein the said indicator undergoes a yellow-to-blue, red-to-yellow or red-to-blue color change.

7-8 (cancelled)

9. (Currently Amended) The device of claim—8 1 wherein said polymer is a ~~a—water soluble or water dispersable~~ homopolymer, or a copolymer or a mixture thereof.

10 -12 .(Cancelled)

13. (Original) The device of claim 1 wherein the polymer is an acrylate polymer.

14. (Cancelled)

15. (Original) The device of claim 1 wherein the reaction product of said activator and said plasma is a halo-acid.

16. (Original) The device of claim 1 wherein the said activator is a salt.

17. (Original) The device of Claim 1 wherein said activator a halide.

18. (Original) The device of Claim 1 wherein said activator is a bromide.

19. (Original) The device of claim 1 wherein the said activator is a bromide of alkali metal or quaternary amine.

20. (Original) The device of claim 1 wherein said activator is tetrabutylammonium bromide or tetraethylammonium bromide or mixture thereof.

21.(Currently Amended) The device of claim 1 wherein said activator is a salt of an amine and an organic or inorganic acid~~-acid-~~ .

22. (Original) The device of claim 1 wherein said activator is a thiocyanate.

23. (Original) The device of claim 1 wherein said activator is sodium thiocyanate.

24. (Original) The device of claim 1 additionally comprising an additive to control the diffusion of plasma gases.
25. (Original) The device of claim 1 additionally comprising a crosslinking agent or a plasticizer to control the diffusion of plasma gases.
26. (Original) The device of claim 1 additionally comprising a zinc compound or a polyaziridine to control the diffusion of plasma gases.
27. (Original) The device of claim 1 comprising two layers.
28. (Original) The device of claim 1 additionally comprising a polymeric top layer.
29. (Original) The device of claim 1 additionally comprising a wedge shaped polymeric top layer.
30. (Original) The process of making a device of claim 1 which comprises dissolving or dispersing the components thereof in a solvent therefor, applying the thus formed solution or dispersate to a substrate and permitting the solvent to evaporate.
31. (Original) The process of claim 30 wherein the substrate is a container for an item to be sterilized.
32. (Currently amended) The process of claim 30 wherein the substrate is a plastic film, paper or metal.
33. (Original) The process of claim 30 wherein the substrate is polyester film or spun bonded polyolefins.
34. (Original) The process of claim 30 wherein the solution is an ink formulation.

35. (Original) The process of claim 30 wherein the solution is an aqueous ink formulation.

36. (Original) The process of claim 35 said ink formulation comprises an acrylate polymer.

37. (Original) A process of using a device of claim 1 for monitoring sterilization of materials comprising the steps of

- a) affixing the device to said materials or containers containing same
- b) carrying out the process of sterilization including the step of introducing the plasma into a vessel containing said materials or containers therefore and
- c) observing the presence of a color change of said device.

38. (Original) The process of claim 37 wherein the plasma is derived from a member selected from the group consisting of hydrogen peroxide, perchloric acid and oxygen.

39. (Original) The process of claim 37 wherein the plasma is that derived from hydrogen peroxide.

40. (Currently amended) A process of using the device of claim 1 for monitoring an ~~oxidizing vapor~~ plasma comprising the steps of

- a) exposing the device to an ~~oxidizing vapor~~ plasma,
- b) observing the presence of color change in the device.

41. (Cancelled)

42. (Currently amended) A device for monitoring ~~hydrogen peroxide~~ plasma derived from hydrogen peroxide, perchloric acid or oxygen ~~comprising~~ consisting essentially of at least one layer of polymer, soluble in water or being water dispersible selected from the group consisting of polymers of acrylate, acrylic acid, acrylamide, vinyl acetate and vinyl alcohol,

having incorporated therein

a) an indicator capable of undergoing at least one color change
 an activator for said indicator wherein said activator, when contacted with said plasma, undergoes a reaction wherein the product of said reaction causes said indicator to undergo said color change.

43. (Cancelled)

44. (Currently amended) The device of claim 43 42 wherein said polymer is a ~~water soluble or water dispersable~~ homopolymer, or a copolymer or a mixture thereof.

45. (Cancelled)

46. (Previously presented) The device of claim 45 wherein the polymer is an acrylate polymer.

47. (Cancelled)

48. (Previously presented)A process of making a device of claim 42 which comprises dissolving or dispersing the components thereof in a solvent therefor, applying the thus formed solution or dispersate to a substrate and permitting the solvent to evaporate.

49. (Previously presented)A process of using a device of claim 42 for monitoring sterilization of materials comprising the steps of

- a) affixing the device to said materials or containers containing same
- b) carrying out the process of sterilization including the step of introducing hydrogen peroxide plasma into a vessel containing said materials or containers therefore and
- c) observing the presence of a color change of said device.